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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,716	08/17/2001	Anand Govind	01-210	6239

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EXAMINER

JONES, STEPHEN E

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 10/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,716

Applicant(s)

GOVIND ET AL.

Examiner

Stephen E. Jones

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-12, 14-19 and 21 is/are rejected.
- 7) ☒ Claim(s) 6, 13 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, 7-8, 12, 14-15, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanz et al. of record.

Hanz (Figs. 1-3) teaches a transmission line for an integrated circuit including: a substrate; a transmission line is on the surface of the substrate and has conductors (e.g. 11-1, 11-2, etc.) that widen along the length of the transmission line; each conductor section can be considered a zone since zone is a broad term; ground plane metallization layers are provided at different distances to the conductor sections to provide a constant impedance along the length of the line (i.e. the line can be considered an impedance equalizer since the impedance is matched along the line) (see Col. 3, lines 14-19) (Claims 1, 7, 8, 14, 15, 21); the conductor sections can be arbitrarily assigned labels such as first and second conductors in any desired manner (i.e. the wider section can be considered the first conductor since the claim does not require otherwise) (Claims 5, 12, 19).

Regarding the new limitations, the different line sections of Hanz "traverse" the arbitrarily designated "zones" (i.e. each section lies across an arbitrarily designated zone).

3. Claims 1, 2, 5, 7-9, 12, 14-16, 19, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by James et al. (of record).

James (Figs. 3A-B) teaches a transmission line for an integrated circuit including: a substrate (302); a transmission line is on the surface of the substrate and has conductors (e.g. 311, 314, 315, etc.) having portions that are wider along the length of the transmission line and portions which are narrower; each conductor section can be considered a zone since zone is a broad term; the spacings of the plural adjacent lines are varied in conjunction with the width changes to provide a constant impedance along the length (i.e. the line can be considered an impedance equalizer since the impedance is matched along the line) (see Col. 6 (lines 66-67) and Col. 4, lines 1-2) (Claims 1, 2, 7, 8, 9, 14, 15, 16, 21); the conductor sections can be arbitrarily assigned labels such as first and second conductors in any desired manner (i.e. the wider section can be considered the first conductor since the claim does not require otherwise) (Claims 5, 12, 19).

Regarding the new limitations, the different line sections of James "traverse" the arbitrarily designated "zones" (i.e. each section lies across an arbitrarily designated zone).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2, 9, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanz et al. of record.

Hanz et al. teaches an impedance matching transmission line as described above. However, Hanz does not explicitly show plural transmission lines.

It would have been considered obvious to one of ordinary skill in the art to have provided a plurality of impedance matched transmission lines connected to the Hanz integrated circuit chip, because it would have provided the advantageous benefit of additional transmission paths for providing signals to additional devices as desired, thereby suggesting the obviousness of such a modification.

7. Claims 3-4, 10-11, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Hanz et al. (of record) or James et al. (of record), in view of Lamson et al. of record.

Hanz and James each teach an impedance matched transmission line technique for an integrated circuit as described above. However, Hanz and James do not explicitly teach that the first transmission zone is provided between the substrate and a heat spreader (claims 3, 10, and 17) or that the second transmission zone is provided between the substrate and a metallic stiffener (Claims 4, 11, and 18).

Lamson et al. teaches an integrated circuit package including that stiffeners/heat spreaders are used in integrated circuit chips (e.g. see Col. 1, lines 33-43).

It would have been considered obvious to one of ordinary skill in the art to have included a stiffener and a heat spreader (such as suggested by Lamson) on the whole of the conductors in the structure of Hanz et al. or James et al., because stiffeners and heat spreaders are well-known in the integrated circuit art for providing the advantageous benefit of mechanical support and heat dissipation.

Response to Arguments

8. Applicant's arguments filed 7/25/03 have been fully considered but they are not persuasive.

Applicant argues that the Hanz transmission line sections of different widths do not provide a characteristic impedance within both the first and second transmission zones (i.e. and impedance match of the zones).

Applicant's argument is not convincing. Hanz clearly teaches that the transmission section widths along with the associated ground plane spacings are selected to provide for the same impedance for all strip sections (e.g. see Col. 3, lines

14-19). Thus Hanz does indeed teach that the widths of the line sections provide a characteristic impedance in combination with the ground planes.

Also, Applicant argues that the Hanz transmission line sections do not traverse a first and second transmission zones respectively.

These arguments are not convincing since the designation of zones is an arbitrary labeling and the Hanz sections of different width lines can thus be designated as different "zones" which the sections of line "traverse" (i.e. lie across).

With regard to the James et al. rejections, Applicant makes similar arguments as to the impedance matching structure and "zone" designation as were argued with respect to the Hanz reference.

Applicant's arguments are not persuasive. James teaches a constant impedance along the length of the line. James clearly shows lines (e.g. the 2nd, 3rd, and 4th lines from the top in Fig. 3B, and the 2nd, 3rd, and 4th lines from the bottom in Fig. 3B) which have incremented width sections. Thus James does teach that the widths of the line sections provide characteristic impedance (i.e. matching) in combination with the spacing from adjacent lines.

Allowable Subject Matter

9. Claims 6, 13, and 20 remain objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

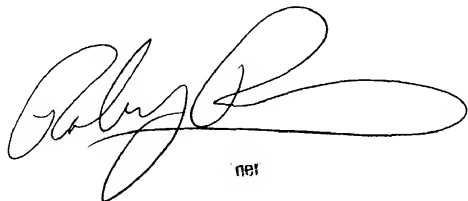
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen E. Jones whose telephone number is 703-305-0390. The examiner can normally be reached on Monday through Friday from 8 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on 703-308-4909. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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